Article title: Knowledge of patients about their diagnosis after visiting doctors' consulting rooms at the Cape Coast Teaching Hospital (CCTH), Ghana

Authors: Nathaniel Eyiah[1], Kwasi Agyen-Mensah[2], Richard Ogirma Baidoo[3]

Affiliations: School of Medical Sciences, University of Cape Coast, Cape Coast, Ghana.[1], School of Medical Sciences, University of Cape Coast and Cape Coast Teaching Hospital, Cape Coast, Ghana.[2]

Orcid ids: 0000-0002-7601-8501[1]

Contact e-mail: s.eyiah.n@uccsms.edu.gh

License information: This work has been published open access under Creative Commons Attribution License <http://creativecommons.org/licenses/by/4.0/>, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. Conditions, terms of use and publishing policy can be found at <https://www.scienceopen.com/>.

Preprint statement: This article is a preprint and has not been peer-reviewed, under consideration and submitted to ScienceOpen Preprints for open peer review.

Funder: Personal

DOI: 10.14293/S2199-1006.1.SOR-.PP2DJNO.v1

Preprint first posted online: 26 January 2021

Keywords: Patients Diagnosis, doctor-patient interaction, medical consultation time

Knowledge of patients about their diagnosis after visiting doctors' consulting rooms at the Cape Coast Teaching Hospital (CCTH), Ghana

Nathaniel Eyiah¹, Kwasi Agyen-Mensah² and Richard O. Baidoo³

¹ School of Medical Sciences, University of Cape Coast, Cape Coast.

² School of Medical Sciences, University of Cape Coast and Cape Coast Teaching Hospital, Cape Coast.

³ School of Medical Sciences, University of Cape Coast and Cape Coast Teaching Hospital.

Author 1, Dr. Nathaniel Eyiah collected some of the data, did literature search and put together the whole work.

Author two, Dr. Kwasi Agyen-Mensah, designed the research, collected some of the data, supervised the work and reviewed the work.

Author 3, Dr. Richard Ogirma Baidoo designed the questionnaire, collected some of the data and did the final review of the work.

Authors have no conflicts of interest, ethical approval was acquired and informed consent was received from all participants.

Corresponding author: Dr. Nathaniel Eyiah

Email: s.eyiah.n@uccsms.edu.gh

ABSTRACT

Objective: Several cross-sectional studies have showed increased reportage of patients who are not aware of their disease conditions. This study therefore aimed at assessing the knowledge of patients about their diagnosis after visiting the doctors' consulting rooms at the Cape Coast Teaching Hospital, Ghana.

Methods: A cross-sectional study was conducted using a convenient sampling method involving consenting patients who were presenting to the OPD clinics within the time-frame. The research instrument used was an interviewer-administered structured questionnaire.

Results: A total of 440 patients were enrolled into the study with a mean age of 45.65 ± 18.08 years. The study population was slightly dominated by males who formed 55.5%. For other socio-demographic determinants, 86.8% were employed with 5.2% being health workers and most of them (91.8%) had had formal education. Only 34.1% enjoyed a consultation time of 30 minutes and above. Most of the patients (83%) were told their diagnosis, got an explanation and understood but then 17% were never told their diagnosis. Chi-square test showed that occupation, educational level, frequency of hospital visit and consultation time were associated with being told your diagnosis but no association was found between these factors and the understanding of their diagnosis.

Conclusion: The study revealed that most of the patients had an appreciable knowledge of the diagnosis together with its explanation. However, a minority of them were not aware of their diagnosis and this indicates the need for nationwide educational interventions to improve doctor-patient interaction.

Keywords: Knowledge, Patients, Diagnosis, Communication, Consulting room

Source of funding: Personally funded by authors

LIST OF ABBREVIATIONS

UCC	–	University of Cape Coast
CCTH	–	Cape Coast Teaching Hospital
SPSS	–	Statistical Package for the Social Sciences
UCCIRB	–	University of Cape Coast, Institutional Review Board
DM	–	Diabetes Mellitus
T2DM	–	Type 2 Diabetes Mellitus
KEEA	–	Komenda-Edina-Eguafo-Abrem
OPD	–	Outpatient Department
CCTH-ERC	–	Cape Coast Teaching Hospital Ethical Review Committee
DHMT	–	District Health Management Team

INTRODUCTION

Background to the Study

As the adage has it, "Knowledge is power". But then, it becomes an issue when some patients generally complain that they are not able to gain adequate knowledge of their disease conditions even after seeing the doctor at the hospital. This is not a matter of poor knowledge of an abstract concept as such but rather the health of patients which impacts significantly on their livelihood. It makes it an interesting subject for investigation. In the running of a health facility, communication is one of the principal tools needed to deliver excellent patient care and promote patient satisfaction. Effective doctor-patient communication is a significant clinical function in creating a therapeutic physician-patient relationship, which is the core aspect of medicine.

Healthcare professionals are required to interact with the patients, ascertain their health needs, and actively solve the problems. It is often reported that patients complain of poor explanation of their health conditions at the facilities. Doctors tend to think and respond hastily when seeing patients, especially on busier days, without giving enough time to deliberate on the patient's complaints. However, according to Zolnierek et al., 2009, it is a fact that clients who understand their doctors are more likely to better appreciate health problems, know their treatment alternatives, adjust their behaviour consequently, and adhere to the medication advice.^{1,2} People wonder if the lack of communication is due to the long queues or even the patient themselves not desiring to know about their diagnosis for the fear of the consequences of knowing a bad diagnosis.

There is data on the international front particularly in different countries such as Malaysia, U.S.A, Nigeria, Saudi Arabia among others on the patient's knowledge of conditions including diabetes, hypertension and breast cancer.³⁻⁵ The gaps in communication and knowledge were presented. The downsides encompass patient being abruptly interrupted in the consulting rooms; patients' concerns not picked-up by the physician nor revealed by the patient; and the dissatisfaction with the information relayed by physicians. These studies declare that difficulties in the physician-patient interaction are quite common, related to knowledge deficits and therefore need specific attention.³⁻⁵ In Ghana, there is a need for studies into such prospects. That is why this study comes in at such an opportune time to assess the local situation in the Cape Coast Teaching Hospital, whether the patients are able to get any knowledge about their diagnosis after leaving the consulting rooms.

Objectives of the study

The study aims to achieve the following objectives:

- To determine the quality of doctor-patient interaction existing in the consulting rooms in the Cape Coast Teaching Hospital.
- To detail the socio-demographic characteristics of clients presenting the OPD clinics.
- To evaluate the level of knowledge of patients about their diagnosis in the Cape Coast Teaching Hospital.
- To determine the contributory factors to the patients' lack of information about their diagnosis in the Cape Coast Teaching Hospital.
- To assess how patients' socio-demographic characteristics and some hospital factors are related to the understanding of their disease condition in the Cape Coast Teaching Hospital.

Significance of the Study

This study will contribute to data on doctor-patient communication issues in Ghana by identifying the strengths and weaknesses in communication. Also, the study will help to identify the causes of any lack of knowledge recognized, the impact on therapy and quality of life, and the needed interventions. Results obtained from this study would help the hospital to create awareness among patients and health care professionals, and long-standing solutions to the pitfalls identified. In the end, this study can serve as a foundation for implementing interventions to improve doctor-patient communication in hospitals generally.

Delimitations

The study involves data gathered from clients visiting the Cape Coast Teaching Hospital within the said period with regards to knowledge and understanding acquired after seeing the doctor. The variables of interest were age, level of education, occupation, frequency of hospital visit, time spent in the consulting rooms, doctor's explanation of diagnosis and the patient's understanding.

LITERATURE REVIEW

Doctor-patient communication

Good physician-patient interaction is a cornerstone in the delivery of health care with high quality. As already stated, it is a key principle in quality assurance. The pit-falls in the doctor-client relationship is what has led to the current complaints of patients' displeasure with the health system.⁶ All through a doctor's training and practice, it seems a greater part of the focus is on acquiring an elaborate understanding of the human body and expertise in medicine, where we look at the ability to be spot-on in the diagnosis and the treatment.⁷ A little attention is however paid to the skills of communication. This is not a good sign, because the practice of medicine involves health professionals dealing with patients. With regards to information-exchange, a lot of studies have shown that doctors are not very good in this aspect.^{8,9}

Experience from the past showed that the trend of the connection between a doctor and a patient was the paternalistic type, where doctors tend to be authoritarian and almost always give the information based on what he or she thinks should be done without involving the client in the decision making. The pattern has changed now where patients no longer tolerate this kind of relationship but will rather want to be part of the decision making and plan of care by receiving a clear knowledge of the physician's findings, diagnosis, treatment and prognosis. Their rights to such information need to be respected as demanded by the Patient's charter.^{10,11} Nothing stops the doctor from equipping himself with effective strategies to communicate better with patients. This should be a cause for concern, as there is a need for patients to gain the appropriate knowledge about their condition after seeing the doctor.⁶

Benefits of a good doctor-patient relationship

Good doctor-patient communication is a central theme in achieving high-quality health care. The benefits arising from such interaction play an instrumental role in determining how healthy a patient will feel after seeing a physician and the instructions that came afterwards. The current goals of a doctor-patient interaction include forming a sound interpersonal rapport, enabling the effective exchange of information, and patient's involvement in decision making.^{6,12} We usually find out that how good a doctor is in terms of communication is not based on how competent he knows himself to be but rather judged by the patients, based on their own experiences, expectations and intrinsic evaluation.⁷

The importance of communication in the healthcare setting cannot be over-emphasized. One doctor, Dr. F. Ameer, at the Bardon Clinic in Brisbane put it this way, "Talking to the patient is the most important thing we doctors do. We do it (talking) more than anything else in our daily practice."^{7,13,14} Communication of high quality has the tendency to help normalize patients' emotions, ease comprehension of medical information, and facilitate better identification of patients' needs, expectations and improve adherence to treatment. Talking to the patient serves as a powerful diagnostic tool, as about 80% of the diagnosis is made from history taking alone, which is at the preliminary stage of the consultation process.^{7,11}

In our setting, studies have illustrated that patients who are satisfied with their care are more likely to give out vital information for accurate diagnosis, follow the physician's advice and adhere to medications.^{6,15} This strongly influences the ability to come for follow-up visits and increases the rapidity of recovery from illnesses. There are also reported benefits of enhanced psychological and mental adjustments. With the legality aspect, satisfied patients are less

likely to initiate the filing of formal complaints or law-suits and it also helps to reduce the work-related stress but rather improves physician satisfaction with the job.⁶

Gaps in Patients' Knowledge of Diagnosis

After knowing about effective communication and its benefits, there is the need to have a look at the existing gaps in our environment. It sometimes becomes worrying as to the minute depth of knowledge that patients have with regards to their disease conditions. This has been reported in a number of articles.

A cross-sectional study carried out in Kuwait using the Michigan Diabetes Knowledge Test showed that among the 5114 adults with Type 2 Diabetes Mellitus (T2DM) involved in the study, only 58.9% were able to answer the questionnaire accurately.¹⁶ Different studies from both developing and developed nations report a poor general knowledge of diabetes among T2DM patients. In this regard, Murata et al also assessed diabetes-related knowledge among patients with higher educational levels but still had a performance of 65%.¹⁷ The significant gaps in knowledge elicited were related to misconceptions about diet and self-care with the contributory socio-demographic factors impacting on the diabetes knowledge being old age, poor educational background and little financial resources. These gaps in knowledge could explain the poor control of diabetes and the increasing presentation of complications.^{16,18} There is a need for educational programmes to address this situation.

Here in Ghana, a study carried out by Turkson, 2010 in the KEEA (Komenda-Edina-Eguafo-Abrem) District in the Central Region of Ghana to demonstrate the perceived quality of

health among rural areas, showed that although the majority of participants assessed the quality of health to be good, lower proportions 43% and 46% were respectively informed of their diagnosis and given advice about their illnesses.¹⁹ Yet again, there seems to be a significant gap in the delivery of information.

To continue, Gupta et al., 2019 performed a study which is published in the International Journal of Basic & Clinical Pharmacology.²⁰ The study aimed at assessing the migraine knowledge strength of patients with migraine attending a Neurology Out-Patient Clinic at Sidhra, Jammu in India. The conclusion drawn was that patients were aware of the respective signs and symptoms of migraine but had insufficient knowledge about all the characteristics of the disease.²⁰ There was advocacy on the need to make patients much aware of the condition to improve compliance with treatment.

The Psychology of Knowing a Bad Diagnosis

The viewpoint of patient-centred medicine dates back to the ancient Greek period. However, patient-centred medicine has not always been the norm of the day. From the 1950s to 1970s, many medical officers regarded the disclosure of bad news to patients as monstrous because of the bad treatment options for deadly conditions such as cancers. It was a usual practice found among medical practitioners of not giving all the details to patients with cancer, for instance.^{6,21} Novack et al. reported that in a questionnaire in 1961, 90% of American doctors desired not to inform a cancer patient about his/her diagnosis.²² By 1977, this had changed such that, 97% preferred to tell a cancer patient the diagnosis.²²

Currently, in several developed countries, the approach of physicians towards notifying cancer patients about their diagnosis has shifted to the release of all-important facts pertaining to the disease. Moreover, studies conducted in many countries indicate that, despite the fear of certain conditions such as cancer, a greater proportion of both healthy adults and cancer patients wish to know their diagnosis, prognosis, available treatment options and the chances of treatment success.²² Thus, the current world has gone beyond the previous reasons of doctors having the fear of disclosing bad news to patients and patients refusing to know of a bad diagnosis, as a major contributory factor for the poor communication. The issue thus needs further exploration.

The psychological effects of knowing a fatal diagnosis deter people from wanting to know in the first place. There is the anxiety, fear of uncertainty and the distress of knowing that the condition has no cure (HIV/AIDS or malignancy). A 24-question study performed by Gold et al., 2016 among 2,106 female physicians in Columbia concerning their mental health history and treatment indicated that about 50% of the women knew they meet the conditions for psychiatric illness but had not gone for treatment.²³ The main explanations for evading care comprised of the belief that the diagnosis was embarrassing, a belief they could manage individually, restricted time, fear of reporting themselves to a medical licensing board.²³ To consider, these are doctors who are shy of the diagnosis for the fear of stigmatization. It, therefore, becomes understandable when some members of the general population refuse knowledge of their diagnosis.

METHODS

Study design

A cross-sectional study using a quantitative method was adopted to obtain data from participants. The study was hospital-based and conducted at the Cape Coast Teaching Hospital, located at Pedu, Cape Coast, in the Central Region of Ghana. It is a Ministry of Health Teaching Hospital with a bed capacity of 450 and it serves as a referral site for all the district hospitals in the Central Region as well as the Winneba Trauma Centre. It offers different specialist care services and general care.

Population

The target population included clients visiting the Outpatient Department (OPD) clinics of the Cape Coast Teaching Hospital during their respective clinic days as first-timers or for follow-up from chronic illnesses. Study participants were recruited between January and February 2020 to obtain the data early enough to carry out analysis. The inclusion criterion was mainly proposed as willing participants attending a recognized clinic in the hospital for consultation.

Sampling

Convenient sampling (non-probability) method was employed to select patients who are 18 years and older. The purpose of the study was explained to the participants and after which, informed consent was sought. Those who consented to be part of the study were included. An estimated sample size of 400 patients at the Cape Coast Teaching Hospital was required. Information from the Biostatistics Department of the Cape Coast Teaching Hospital indicated that the average monthly OPD attendance in 2019 was 14,005. Thus, for two months, the average attendance was 28,010. This was used as the target population size for the study (N).

Prevalence was set at 50% (to assume an equal distribution of variability). The sample size was then calculated using the Cochran formula.

The Cochran's equation for a finite population which is shown below was used:

$$n = \frac{n_o}{1 + \frac{(n_o - 1)}{N}}$$

Where n_o is the sample size and N is the population size

Before n was calculated, n_o was calculated using the Cochran's equation for the infinite population which is

$$n_o = \frac{Z^2 pq}{e^2}$$

Where:

- e is the desired level of precision (i.e. the margin of error),
- p is the (estimated) proportion of the population which has the attribute in question,
- q is $1 - p$.

The z-value is found in a Z table.

Values for the calculation:

- Margin of error (e) = 0.05
- Confidence interval = 95%
- p is the estimated proportion of an attribute that is present in the population, the prevalence. This was assumed as 50% (0.5). Thus $p = 0.5$

- $q=1-p=1-0.5=0.5$
- Z-value for a 95% confidence interval= 1.96

Therefore, $n_0 = ((1.96)^2 (0.5) (0.5)) / (0.05)^2 = 384.16$

Now calculating for the sample size n, given the population size (N) of 28,010:

$$n = \frac{n_0}{1 + \frac{(n_0-1)}{N}}$$

$$n = \frac{(384.16)}{1 + \frac{(384.16-1)}{28010}}$$

$$n = 378.98$$

About 5% of contingency was assumed. Therefore the total sample size was set at **400**.

With regards to gender, both males and females were included in the study. There were no specific preferences for particular males or females. The study also involved the category of youth and adults who consented to participate. Also, on the issue of disability, once the individual's condition did not prevent him or her from communicating with the investigator, he or she was included in the study. Data were collected from participants at the Surgical clinics (General surgery, Orthopaedics and Urology) as well as the Medical clinics.

Instruments

A structured questionnaire was the main instrument for data collection. It was interviewer-administered and contained both closed and open-ended questions. The questionnaire was categorized into five sections based on the objectives of the study. The sections include an introduction/informed consent, demographic characteristics, interaction at the consulting room, interaction at the pharmacy and any other comments.

Data collection procedures

Rapport was established with the respondents and the aims/objectives of the study were explained to them before starting the interview. Also, each potential respondent was notified about the right to refuse to participate in the study and the right to withdraw, anytime after commencing the study, without any penalty. They were assured of confidentiality regarding any information provided before starting the interview. The data was collected using a structured interviewer-administered questionnaire, containing both open-ended and closed questions. The questionnaires were filled by the investigator as the respondents gave their responses to the questions.

Data management

Data was taken from 440 patients visiting the OPD clinics at the Cape Coast Teaching Hospital. The data collected did not include any patient-identifying data. They were only assigned arbitrary numbers to enable entry into the Statistical Package for Social Sciences (SPSS version 21) database. The resulting dataset was crosschecked to ascertain that there were no data errors, after which it was secured using encryption and not made available to a third party. The hard copy questionnaires were burned afterwards.

Ethical Consideration

Ethical clearance was sought from the University of Cape Coast, Institutional Review Board (UCC-IRB) and the Cape Coast Teaching Hospital Ethical Review Committee (CCTH-ERC) before the research was commenced. Informed consent (written and verbal) was obtained from the clients/patients before administering the questionnaire. Patients who refused to

partake in the study had their decisions respected. Data collected was treated with the highest level of confidentiality and privacy.

Data analysis

Quantitative data analysis was used in this work. Quantitative analytical tools used included relative frequencies and correlations. The completed questionnaires were entered using the Statistical Package for Social Sciences (SPSS) 21.0 after successful coding. Data was initially screened for missing values and outliers. The cleaned data was then exported to the statistical package of SPSS version 21.0 for analysis. Descriptive analysis was used to detail the distribution of sociodemographic factors (age range, gender, educational level and occupation), waiting time, time spent in the consulting room, explanation of diagnosis and patient's understanding of the diagnosis. Measures of central tendency, dispersion, and variance were used in describing the data. Categorical variables were described using percentages whereas arithmetic means and medians were used to describe continuous variables. The tables and graphs of frequencies were generated using Microsoft Excel 2013. Associations between independent categorical variables and the main outcomes were assessed by employing the chi-squared test. All statistical tests were two-tailed and p-values less than 0.05 were considered as statistically significant.

RESULTS

This section depicts the results from the study involving 440 participants recruited.

Table 1: Socio-demographic factors of study participants

Variable	Frequency (%)
Gender	
Male	244 (55.5)
Female	196 (44.5)
Age (years)	
<20	19 (4.3)
20-39	168 (38.6)
40-59	136 (30.9)
60+	115 (26.1)
Overall mean age: 45.65±18.08 years	
Highest level of education	
None	36 (8.2)
Primary	63 (14.3)
JHS	90 (20.5)
SHS/Vocational	102 (23.2)
Tertiary	149 (33.9)
Occupation	
Health worker	23 (5.2)
Public/Civil servant	81 (18.4)
Farmer	65 (14.8)

Trader	65 (14.8)
Unemployed	58 (13.2)
Other	148 (33.6)

From table 1, males formed a majority of the patients and they were 244 (55.5%). Of the 440 patients, with the age range of 14 to 90 years, majority (38.6%) were between the ages of 20 and 39 with 4.3% aged below 20 years. The mean age was 45.65 ± 18.08 years. The median and modal ages were 42.0 and 27.0 years respectively. Most of the patients (396, 91.8%) had had formal education with only a minority (8.2%) not having any form of formal education. This is a significant demographic factor to discuss since it affects the capacity of the patients to understand information communicated. Generally, a significant proportion of the patients were employed with 13.2% being unemployed. The kind of profession one is involved in goes a long way to affect some of his or her daily practices. 5.2% were health workers and it is expected that they have an advantage with regards to getting better knowledge of their disease conditions.

Table 2: Frequency of hospital visit

How often do you visit the hospital?	Frequency (%)
First time	54 (12.3)
Weekly	48 (10.9)
Monthly	131 (29.8)
Once every 3 months	82 (18.6)
Yearly	125 (28.4)
Total	440 (100)

Table 2 gives a fair idea about how often the patients attend the hospital. Among the 440 study participants, a greater proportion (29.8%) visit the hospital on a monthly basis. This is typically expected since most patients are generally scheduled for monthly reviews at the OPD. Regular visits to the hospital, as advised, could help to continuously upgrade their knowledge and clarify misconceptions about disease conditions and treatment changes. For the extremities, it was observed that 12.3% were visiting the hospital for the first time while 28.4% report to the hospital yearly.

Table 3: Allocation of time spent by study participants at CCTH

Time allocation	Duration	Frequency	Percentage (%)
Waiting time before seeing the doctor	Less than 10 minutes	40	9.1
	Between 10-30 minutes	92	20.9
	Between 30 minutes -1 hour	107	24.3
	More than 1 hour	201	45.7
	Total	440	100.0
Time spent in the consulting room	1-5 minutes	69	15.7
	6-10 minutes	131	29.8
	10-20 minutes	90	20.5
	30 minutes and above	150	34.1
	Total	440	100.0

From the above frequency table, 201 patients representing a greater percentage (45.7%) had to wait for more than 1 hour before seeing the doctor. One can only imagine the frustration they will have to go through before they see the doctor to present their complaints. This was followed by 107 patients (24.3%) who waited for 30 to 60 minutes. 9.1% of them had a short waiting time of less than 10 minutes. During the consultations, although many of the patients

(150, 34.1%) spent 30 minutes and above with the doctor, a considerable proportion (29.8%) spent 6-10 minutes, with 15.1% going through a short consultation period of 1-5 minutes.

Table 4: Patient's knowledge of diagnosis

Questions	Yes (%)	No (%)	Total (N)
Were you told your diagnosis?	366 (83%)	74 (17%)	440
Was the diagnosis explained to you?	354 (97%)	12 (3%)	366
Did you understand the explanation of the diagnosis?	355 (98%)	9 (2%)	364

Among the 440 participants, 366 (83%) were told their diagnosis while 74 (17%) were not informed about their diagnosis by the doctor. For those who were told their diagnosis, most of them (97%) had a further explanation with only 3% not receiving any explanation whatsoever about their diagnosis. In addition, 98% attested to the fact that they understood the explanation provided concerning their disease condition.

Chi-square tests

Null hypothesis (H_0): Variables are not associated with each other

Alternative hypothesis (H_1): Variables are associated with each other

Alpha - level = 0.05 set at 95% confidence interval

Definition of symbols:

X^2 = Pearson chi-square value

df = Degree of freedom

P-value =Asymptotic Significance (2-sided)

Table 5: Chi-square analysis of variables of interest

Variable A / Variable B	Chi-square measures	Were you told your diagnosis?	Understood explanation of diagnosis?
Age range	X ²	3.294	2.763
	df	3	3
	p-value	0.349	0.430
Occupation	X ²	17.987	4.928
	df	5	5
	p-value	0.003	0.425
Educational level	X ²	9.906	3.178
	df	4	4
	p-value	0.042	0.528
Frequency of hospital visit	X ²	28.721	2.891
	df	4	4
	p-value	0.000	0.576
Time spent in the consulting room	X ²	38.051	6.747
	df	3	3
	p-value	0.000	0.080

From the chi-square tests conducted, there were a few associations. There was an association between occupation and being told your diagnosis ($X^2(5) = 17.987$, $p = 0.003$). This is because the p-value calculated was less than 0.05 and therefore, we reject the null hypothesis which states that there is no association between occupation and being told your diagnosis, and rather say there is an association. It was also determined that there were strong associations between educational level and being told your diagnosis ($X^2(4) = 9.906$, $p = 0.042$); frequency of hospital visit and being told your diagnosis ($X^2(4) = 28.721$, $p = 0.000$); time spent in the consulting room and being told your diagnosis ($X^2(3) = 38.051$, $p = 0.000$). Although these associations were found with the chi-square tests, there is the need to carry out correlational analysis to evaluate the extent of the relationships. There were no associations obtained between the variables and the understanding of diagnosis.

DISCUSSION

From the study, most of the patients (91.8%) had formal education ranging from the basic stage to the tertiary level with 8.2% not having any educational background. Literacy is a very essential element which influences the ability of individuals to acquire knowledge about their health. A study by Al-Sarihin et al. found that knowledge deficit about disease states is related to low literacy level.²⁴ In discussing the occupation of the study participants, 13.2% were unemployed with 86.8% being employed. The employment status determines the socio-economic level of the participants, considering that it tends to affect the income earned to sustain daily living. A good number of rural folks have a low socioeconomic status such that presenting to the hospital to undergo routine check-up to increase awareness of their health is even a challenge.

In terms of how often the individuals present to the hospital, most of them visit the hospital every month with this being dominated by the elderly population (60+ years). According to the Ghana Health Service report on health sector performance, 2017, the average number of outpatient visits per person is 1.0 per year as of 2016.²⁵ In the present study, 28.4% of the population attended the OPD once yearly with the remaining visiting the hospital more regularly. This is a good statistic when compared with the general statistics by the GHS. Although it is not the desire of a person to be going to the hospital every single moment, it has been argued that the frequency of hospital visit is sometimes necessary because individuals who have gone to the clinic many times would have continually spent enough time with the doctors to form an impression about their condition.¹⁵ In that regard, such individuals are at an advantage.

It came up that 17% of the respondents representing 74 out of the total of 440 were not told their diagnosis. This is typical of the paternalistic type of communication where some doctors just elicit the patient's presentation and write prescriptions. Such category of patients have a very poor knowledge of their diagnosis coupled with a high level of uncertainty by the time they are leaving the consulting room. This is similar to the study by Turkson, 2010 where only 43.3% of the respondents were told what was wrong with them and only 46.1% were given any advice about their illness.¹⁹ However, in our current study, 97% got an explanation of their diagnosis.

The Ghana Health Service Patient's Charter states the patient has the right to full information on her condition and management of possible risks involved. Again, the Charter makes it a responsibility of health workers to inform or educate patients about their illnesses. In light of the

findings in the study, the District Health Management Team will have to educate health workers about this right and encourage the dissemination of information to patients.¹⁹ Most people who received the explanation of their diagnosis from the doctors were able to understand it. This tells us that when the doctors go ahead to educate patients on their diagnosis, they can understand. In some cases, the doctors refuse to tell and/or explain the patients' diagnosis to them because they feel it will be difficult for the clients to appreciate the discussion. This should not be an excuse for omission but rather they should find simpler ways of breaking down the medical jargons to the patients in a format they can understand, if possible, in their local dialect.

The Chi-square tests showed that occupation, educational level, frequency of hospital visit and consultation time were associated with being told your diagnosis. However, there was no association between the above factors and the understanding of diagnosis.

Limitations

Although a significant sample size of 440 participants was used for this study, the study was cross-sectional and involved convenient sampling thus it makes the drawing of inferences not ideal. Generally, it allows for descriptive statistics. Also, this study did not adopt a knowledge score assessment of patients to objectively calculate the level of knowledge of their disease conditions. It only used the patients' description of their understanding after seeing the doctor which could be subjective.

CONCLUSION

Most of the patients had an appreciable knowledge of the diagnosis together with its explanation. However, a minority of them were not aware of their diagnosis and this is worth elucidation. Majority of them also attested to the fact that they had a better understanding of their conditions after they visited the doctor. There were a few gaps identified as some of them did not get any of such explanations. Based on the highlights of the study, it is highly suggested that national institutions create awareness among health care professionals on the need to pay attention to effective communication and providing patients with the necessary information on their health when they come to the hospital. The general public should be educated on their rights to enquire of what is wrong with them when they are not provided with the details or they do not understand. This is because it has an impact on their quality of life and health practices.

REFERENCES

1. Haskard Zolnieriek KB, Dimatteo MR. Physician communication and patient adherence to treatment: A meta-analysis. *Med Care*. 2009;47(8):826-834. doi:10.1097/MLR.0b013e31819a5acc
2. Mitchell S, Gass J, Hanna M. How Well Informed Do Patients Feel about Their Breast Cancer Surgery Options? Findings from a Nationwide Survey of Women after Lumpectomy and/or Mastectomy. *J Am Coll Surg*. 2018;226(2):134-146.e3. doi:10.1016/j.jamcollsurg.2017.10.022
3. Desalu OO, Salawu FK, Jimoh AK, Adekoya AO, Busari OA, Olokoba AB. Diabetic foot care: self reported knowledge and practice among patients attending three tertiary hospital in Nigeria. *Ghana Med J*. 2011;45(2):60-65. doi:10.4314/gmj.v45i2.68930

4. Ariffin F, Azraii B, Kamaruddin KN. An assessment of patient waiting and consultation time in a primary healthcare clinic. *Malaysian Fam Physician*. 2017;12(1):14-21. doi:10.14260/jemds/2018/225
5. Hoang, A. N., Sandlin, R. D., Omar, A., Egan, T. J., & Wright DW. 基因的改变NIH Public Access. *Bone*. 2010;23(1):1-20. doi:10.1038/jid.2014.371
6. Ha JF, Longnecker N. Doctor-patient communication: A review. *Ochsner J*. 2010;10(1):38-43. doi:10.3329/jbcps.v32i2.26036
7. Dowd GVGO. Doctor-Patient Communication : An Introduction for Medical Students. 2004;1951:39-52.
8. Duffy FD, Gordon GH, Whelan G, Cole-Kelly K, Frankel R. Assessing competence in communication and interpersonal skills: The Kalamazoo II report. *Acad Med*. 2004;79(6):495-507. doi:10.1097/00001888-200406000-00002
9. Platt FW, Keating KN. Differences in physician and patient perceptions of uncomplicated UTI symptom severity: Understanding the communication gap. *Int J Clin Pract*. 2007;61(2):303-308. doi:10.1111/j.1742-1241.2006.01277.x
10. Bonsu M. The Patients' Charter and Its Contribution to Quality Health Care Delivery in Northern Region Of Ghana. 2016.
11. Brédart A, Bouleuc C, Dolbeault S. Doctor-patient communication and satisfaction with care in oncology. *Curr Opin Oncol*. 2005;17(4):351-354. doi:10.1097/01.cco.0000167734.26454.30
12. McGraw M, Fellows S, Long A, et al. Feedback on doctors' performance from parents

- and carers of children: A national pilot study. *Arch Dis Child*. 2012;97(3):206-210. doi:10.1136/adc.2010.203174
13. Howells RJ, Davies HA, Silverman JD, Archer JC, Mellon AF. Assessment of doctors' consultation skills in the paediatric setting: The paediatric consultation assessment tool. *Arch Dis Child*. 2010;95(5):323-329. doi:10.1136/adc.2008.146191
 14. Jefford M, Tattersall MHN. Informing and involving cancer patients in their own care. *Lancet Oncol*. 2002;3(10):629-637. doi:10.1016/S1470-2045(02)00877-X
 15. Udonwa NE, Ogbonna UK. Patient-Related Factors Influencing Satisfaction in the Patient-Doctor Encounters at the General Outpatient Clinic of the University of Calabar Teaching Hospital, Calabar, Nigeria. *Int J Family Med*. 2012;2012:1-7. doi:10.1155/2012/517027
 16. Al-Adsani AMS, Moussa MAA, Al-Jasem LI, Abdella NA, Al-Hamad NM. The level and determinants of diabetes knowledge in Kuwaiti adults with type 2 diabetes. *Diabetes Metab*. 2009;35(2):121-128. doi:10.1016/j.diabet.2008.09.005
 17. Murata GH, Shah JH, Adam KD, et al. Factors affecting diabetes knowledge in Type 2 diabetic veterans. *Diabetologia*. 2003;46(8):1170-1178. doi:10.1007/s00125-003-1161-1
 18. Mufunda E, Ernersson Å, Hjelm K. Limited knowledge of diabetes in patients attending an outpatient diabetes clinic at a referral hospital in Zimbabwe: A cross-sectional study. *Pan Afr Med J*. 2018;29:1-13. doi:10.11604/pamj.2018.29.144.12301
 19. Turkson P. Perceived quality of healthcare delivery in a rural District of Ghana. *Ghana Med J*. 2010;43(2):65-70. doi:10.4314/gmj.v43i2.55315

20. Gupta R, Malhotra A, Malhotra P. An observational study to assess the knowledge of migraine among patients with migraine at a tertiary care teaching hospital. *Int J Basic Clin Pharmacol.* 2019;8(3):502. doi:10.18203/2319-2003.ijbcp20190655
21. Miyata H, Takahashi M, Saito T, Tachimori H, Kai I. Disclosure preferences regarding cancer diagnosis and prognosis: To tell or not to tell? *J Med Ethics.* 2005;31(8):447-451. doi:10.1136/jme.2003.007302
22. AM A-A. Cancer patients' desire for information: a study in a teaching hospital in Saudi Arabia. *East Mediterr Heal J.* 2009;15(1):19-24. <http://www.medvik.cz/link/access.do?source=ebsco&url=http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=105543029&lang=cs>.
23. Gold KJ, Andrew LB, Goldman EB, Schwenk TL. "I would never want to have a mental health diagnosis on my record": A survey of female physicians on mental health diagnosis, treatment, and reporting. *Gen Hosp Psychiatry.* 2016;43:51-57. doi:10.1016/j.genhosppsych.2016.09.004
24. Rn IIA, Al Sarihin KK, Bani-Khaled MH, Althwabia II, Haddad FH. Diabetes Knowledge among Patients with Diabetes Mellitus at King Hussein Hospital. *Jrms.* 2012;19(1):72-77.
25. Health THE, In S. the Health Sector in Ghana Facts and Figures. 2010.